



MODULE SPECIFICATION

Part 1: Information			
Module Title	Data Analysis		
Module Code	UFCF7N-15-2	Level	Level 5
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: The purpose of this module is to provide introduction to data analysis and interpretation, sources of data, methods of data presentation and description, and how to conduct simple hypothesis tests and make inferences. On completion of the module, there should be an ability to draw on statistics appropriately to support arguments and be able to better understand and critique statistical analysis encountered in academic papers in subsequent courses.</p> <p>Outline Syllabus: The syllabus includes: Review basic probability and nature of statistical investigations Probability distributions/Bayes and data handling Discrete and Continuous distributions and examples Conditional, joint Probability, data and Bayes Sampling distributions and Statistical Inference generation, interpretation, use and examples for data types Principles of Non-parametrics less rigorous assumptions and distributional requirements Advanced methods experimental design and Multivariate - an outline Complex Systems Models and Analysis problem-solving: blueprint/approach for real-world data analytics Illustrative</p>

STUDENT AND ACADEMIC SERVICES

Teaching and Learning Methods: Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools.

150 hours study time of which 36 hours will represent scheduled learning. Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshops.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion. Apprentice study time will be organised each week with a series of both essential and further readings and preparation for practical workshops. It is suggested that preparation for lectures, practical workshops, session delivery and seminars will take 7 hours per week.

Contact Hours:

36 hours scheduled learning

114 hours research, independent study and preparation for assessment work

Scheduled learning will typically include lectures, seminars, supervision, external visits and an interactive forum.

All apprentices are expected to attend a series of tutorials.

Part 3: Assessment

This module is assessed by a combination of techniques: an examination (3 hours) and a series of short answer questions and an individual report (1,500 words).

Component A is an end of year examination to enable apprentices to explain and apply their knowledge by solving data and statistical problems and providing analysis of findings. Questions will be based on business-type scenarios.

Component B comprises a short-answer question paper including a mix of data response and problem-solving practical questions and a report.

Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all apprentices will engage with personalised tutorials setting SMART targets as part of the programme design.

Total Assessment:

Written Exam: Unseen written exam, open book written exam, In-class test

Coursework: Written assignment or essay, report, presentation, dissertation, portfolio, project

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:

Total assessment of the module:

Written exam assessment percentage: 50%

Coursework assessment percentage: 50%

Total: 100%

First Sit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	50 %	Online Timed constrained assessment
Report - Component B		50 %	Short answer questions and individual report (1500 words)

STUDENT AND ACADEMIC SERVICES

Resit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	50 %	Online Timed constrained assessment
Report - Component B		50 %	Short answer questions and individual report (1500 words)

Part 4: Teaching and Learning Methods																			
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th>Module Learning Outcomes</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Demonstrate an understanding for different levels of measurement and data types</td> <td>MO1</td> </tr> <tr> <td>Demonstrate an understanding and apply underlying probability principles and distribution examples</td> <td>MO2</td> </tr> <tr> <td>Demonstrate and be able to distinguish between descriptive and inferential statistical quantities in the theory and practice of statistics and in data analytics</td> <td>MO3</td> </tr> <tr> <td>Demonstrate an appreciation of the scope and robustness of common analytical methods for one to many samples</td> <td>MO4</td> </tr> <tr> <td>Perform calculations and manipulate data via a suitable package using a range of analytical statistical techniques and interpret outcomes for a range of business scenarios</td> <td>MO5</td> </tr> <tr> <td>Define and calculate basic statistics used to describe distributions for given business scenarios</td> <td>MO6</td> </tr> <tr> <td>Present data in a meaningful way, using graphs and tables</td> <td>MO7</td> </tr> <tr> <td>Demonstrate an ability to use data mining applications, and provide business value metrics to the organisation</td> <td>MO8</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Demonstrate an understanding for different levels of measurement and data types	MO1	Demonstrate an understanding and apply underlying probability principles and distribution examples	MO2	Demonstrate and be able to distinguish between descriptive and inferential statistical quantities in the theory and practice of statistics and in data analytics	MO3	Demonstrate an appreciation of the scope and robustness of common analytical methods for one to many samples	MO4	Perform calculations and manipulate data via a suitable package using a range of analytical statistical techniques and interpret outcomes for a range of business scenarios	MO5	Define and calculate basic statistics used to describe distributions for given business scenarios	MO6	Present data in a meaningful way, using graphs and tables	MO7	Demonstrate an ability to use data mining applications, and provide business value metrics to the organisation	MO8
Module Learning Outcomes	Reference																		
Demonstrate an understanding for different levels of measurement and data types	MO1																		
Demonstrate an understanding and apply underlying probability principles and distribution examples	MO2																		
Demonstrate and be able to distinguish between descriptive and inferential statistical quantities in the theory and practice of statistics and in data analytics	MO3																		
Demonstrate an appreciation of the scope and robustness of common analytical methods for one to many samples	MO4																		
Perform calculations and manipulate data via a suitable package using a range of analytical statistical techniques and interpret outcomes for a range of business scenarios	MO5																		
Define and calculate basic statistics used to describe distributions for given business scenarios	MO6																		
Present data in a meaningful way, using graphs and tables	MO7																		
Demonstrate an ability to use data mining applications, and provide business value metrics to the organisation	MO8																		
Contact Hours	<table border="1"> <thead> <tr> <th colspan="2">Independent Study Hours:</th> </tr> </thead> <tbody> <tr> <td>Independent study/self-guided study</td> <td>114</td> </tr> <tr> <td>Total Independent Study Hours:</td> <td>114</td> </tr> <tr> <th colspan="2">Scheduled Learning and Teaching Hours:</th> </tr> <tr> <td>Face-to-face learning</td> <td>36</td> </tr> <tr> <td>Total Scheduled Learning and Teaching Hours:</td> <td>36</td> </tr> <tr> <td>Hours to be allocated</td> <td>150</td> </tr> <tr> <td>Allocated Hours</td> <td>150</td> </tr> </tbody> </table>	Independent Study Hours:		Independent study/self-guided study	114	Total Independent Study Hours:	114	Scheduled Learning and Teaching Hours:		Face-to-face learning	36	Total Scheduled Learning and Teaching Hours:	36	Hours to be allocated	150	Allocated Hours	150		
Independent Study Hours:																			
Independent study/self-guided study	114																		
Total Independent Study Hours:	114																		
Scheduled Learning and Teaching Hours:																			
Face-to-face learning	36																		
Total Scheduled Learning and Teaching Hours:	36																		
Hours to be allocated	150																		
Allocated Hours	150																		
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/index.html</p>																		

STUDENT AND ACADEMIC SERVICES

--	--

Part 5: Contributes Towards

This module contributes towards the following programmes of study: